

Oracle Academy Application Express Learner Guide

Contents

1. Introduction	2
2. Logging in to Oracle Application Express	2
3. Oracle Application Express Components.....	2
4. How to add tables and data to APEX accounts	3
5. Using SQL Commands from the SQL Workshop Component	8
6. General Overview SQL Command Window	8
7. Saving a SQL or PL/SQL Statement.....	11
8. Accessing a Saved SQL or PL/SQL Statement	11
9. Using the History Option	12
10. Using the Explain Option	13
11. Using the Object Browser tool from the SQL Workshop Component.....	13
12. Using SQL Scripts tool from the SQL Workshop Component.....	13
13. Creating Scripts.....	14
14. Viewing Scripts.....	15
15. Running Scripts.....	15
16. Upload Scripts.....	16

1. Introduction

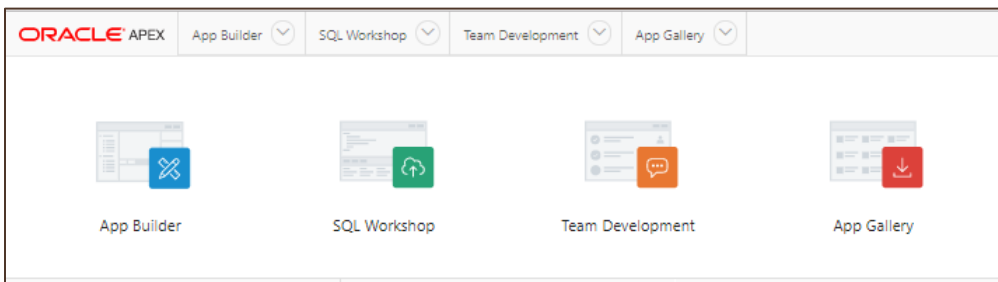
This document will help Oracle Academy Learners and instructors become familiar with how to use Oracle Application Express and each of its components from an end user's perspective. If you would like to learn more about the teacher capabilities of Oracle Application Express, please refer to the Oracle Application Express – Teacher Guide.

2. Logging in to Oracle Application Express

Please check with your teacher for APEX logon instructions.

3. Oracle Application Express Components

Once you log into Oracle Application Express you will see the Oracle Application Express home page. This page displays all of the components of Oracle Application Express: Application Builder, SQL Workshop, Team Development and App Gallery.



- Application Builder: Allows you to create, view or monitor applications.
- SQL Workshop: You can create, manage, and view the database objects from a Web browser using SQL Workshop.
- Team development: facilitates the management of the application development process.
- App Gallery: a suite of business productivity applications.

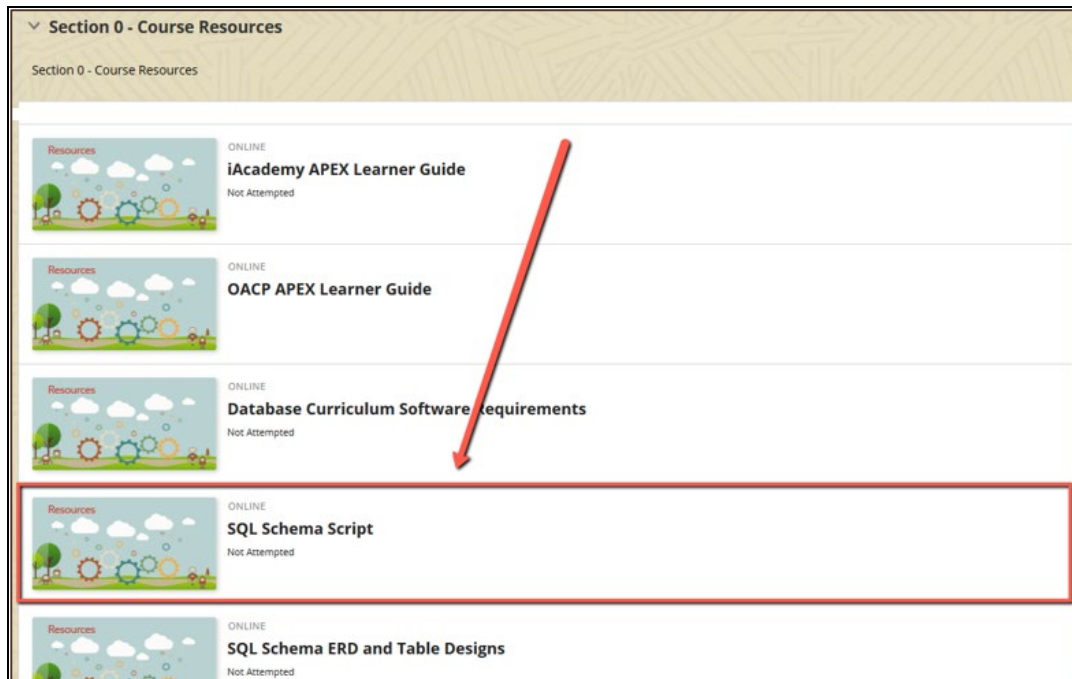
SQL Workshop is the main component that is used with the Database Programming with SQL and PL/SQL course curriculum. Note that the tabs at the top of the page provide quick access to these components.

4. How to add tables and data to APEX accounts

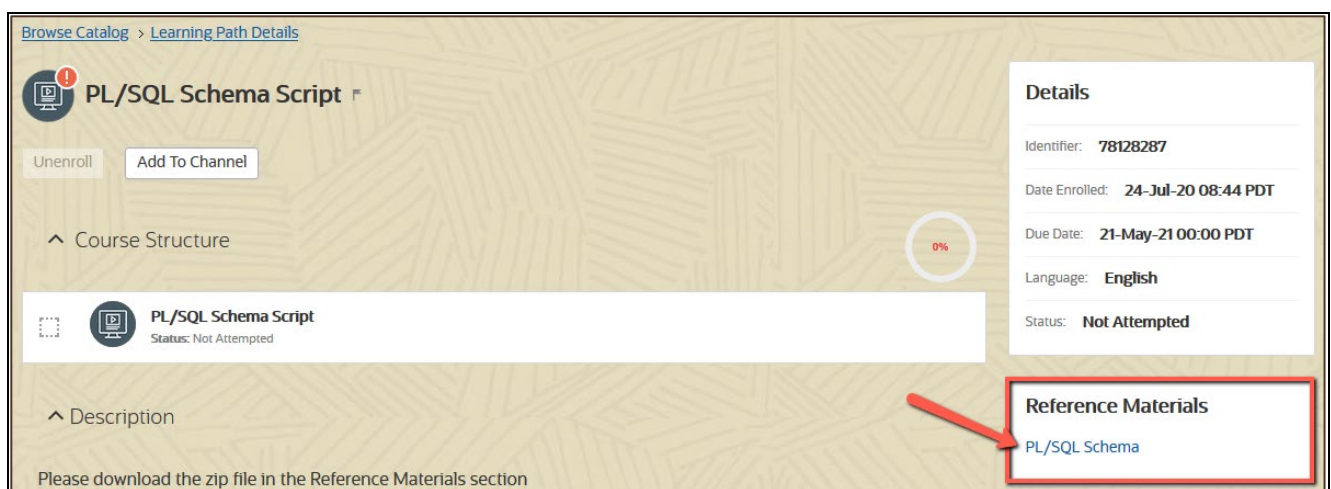
In order to have access to the tables and data used throughout the course a Script file, that can be accessed in the Member Hub, must be run in the teacher account and all Learner accounts.

The teacher should do this as a “run-through” with the class following the instructions below. This method insures that Learners understand and can download and run the scripts in their own schemas.

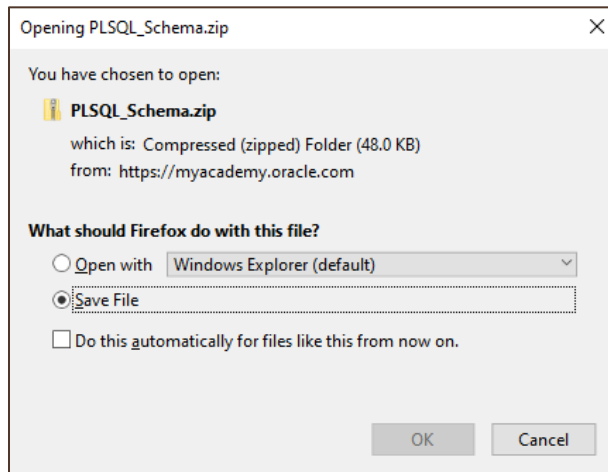
1. To obtain the script file go to the Section 0 – Course Resources of the Learner – Learning Path for the course and select the desired script.



Click the link in the Reference Materials area to Save the file to your local computer.

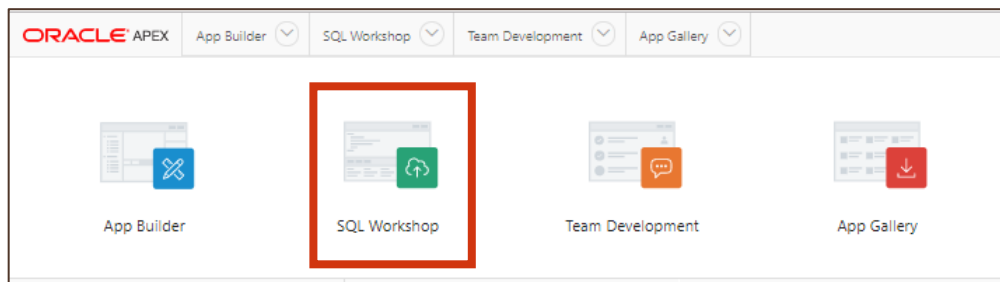


Once saved, unzip the file.

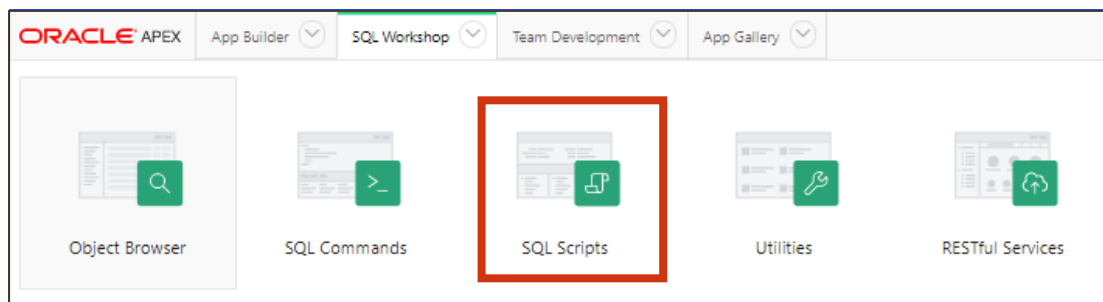


2. Open APEX in your browser and login.

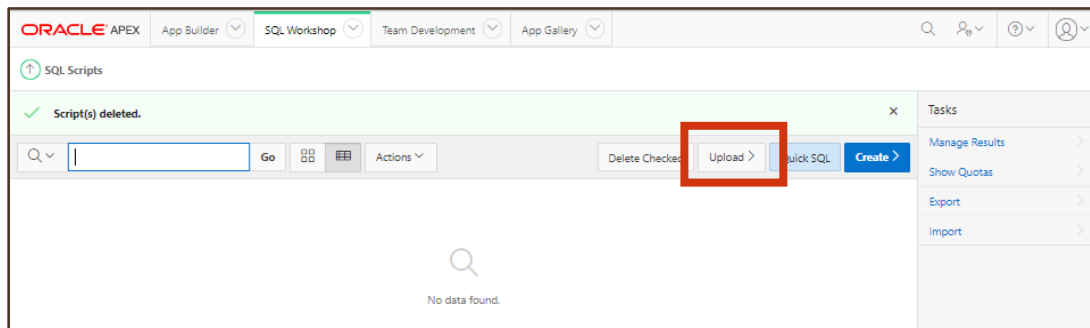
3. Select "SQL Workshop"



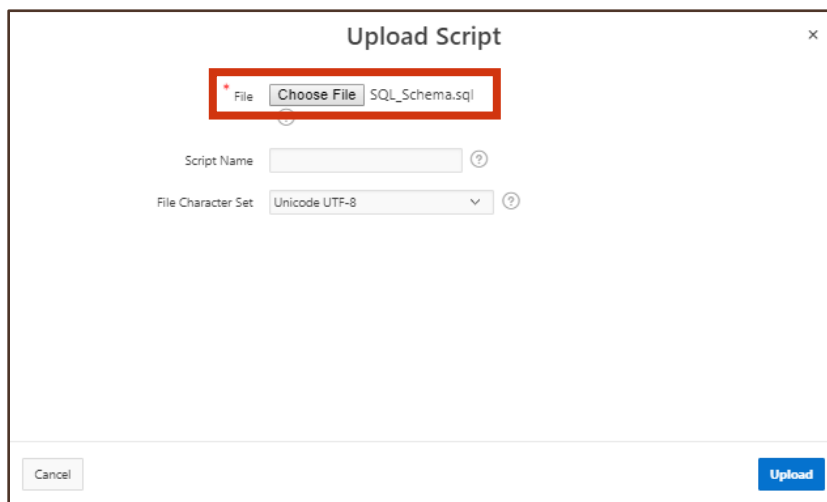
4. Select "SQL Scripts"



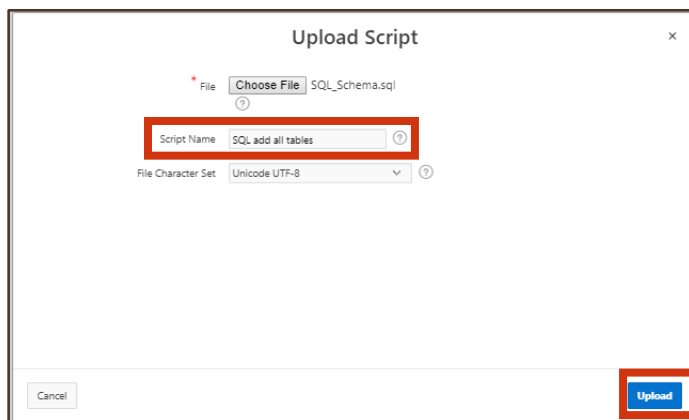
5. Click “Upload”



6. Click Choose File and navigate to the file you downloaded from in Step 1.



7. Add a Script Name - “SQL add all tables” or “PLSQL add all tables”, leave “File Character Set” as default (Unicode UTF-8), and click “Upload”.



8. You will now see the Script listed. Click the Run icon.

ORACLE APEX App Builder SQL Workshop Team Development App Gallery

SQL Scripts

Script(s) deleted.

Search Go Actions Delete Checked Upload Quick SQL Create

	Edit	Owner	Name	Created	Updated By	Updated	Bytes	Results	Run
			SQL add all tables	1 seconds ago		1 seconds ago	309,994	0	

1 - 1

9. Click "Run Now"

Run Script

You have requested to run the following script. Please confirm your request.

Script Name	SQL add all tables
Created	on 08/30/2019 12:25:49 PM by LAPALOMBO@VERIZON.NET
Updated	on 08/30/2019 12:25:49 PM by LAPALOMBO@VERIZON.NET
Number of Statements	1547
Script Size in Bytes	309,994

Cancel Run Now

10. You can view the results, however, your first attempt to run the script will generate errors on the DROP statements due to the tables not already existing in the schema.

ORACLE APEX App Builder SQL Workshop Team Development App Gallery

SQL Scripts Results

Script: SQL add all tables Status: Complete

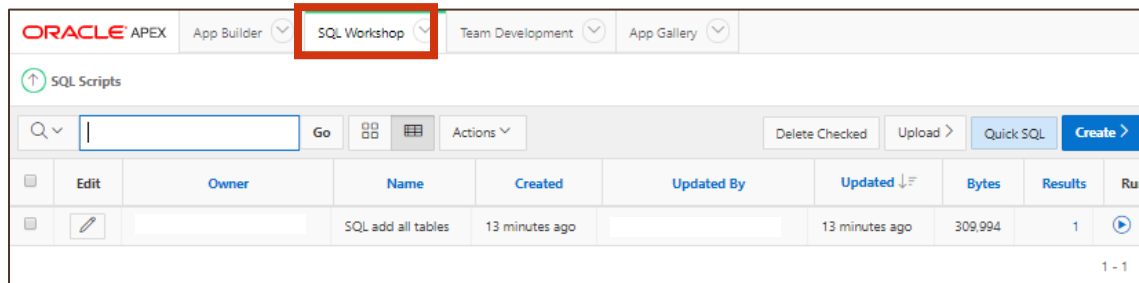
View: Detail Summary Rows: 15 So Create App from Script Edit Script

Number	Elapsed	Statement	Feedback	Rows
1	0.45	DROP TABLE f_shift_assignments	Table dropped.	0
2	0.45	DROP TABLE f_shifts	Table dropped.	0
3	0.42	DROP TABLE f_order_lines	Table dropped.	0
4	0.43	DROP TABLE f_orders	Table dropped.	0
5	4.92	DROP TABLE f_staffs	Table dropped.	0
6	0.47	DROP TABLE f_food_items	Table dropped.	0
7	0.43	DROP TABLE f_regular_menus	Table dropped.	0
8	0.44	DROP TABLE f_promotional_menus	Table dropped.	0
9	0.48	DROP TABLE f_customers	Table dropped.	0
10	0.44	DROP TABLE d_track_listings	Table dropped.	0
11	0.46	DROP TABLE d_play_list_items	Table dropped.	0
12	0.46	DROP TABLE d_songs	Table dropped.	0
13	0.45	DROP TABLE d_types	Table dropped.	0
14	0.44	DROP TABLE d_job_assignments	Table dropped.	0
15	0.41	DROP TABLE d_partners	Table dropped.	0

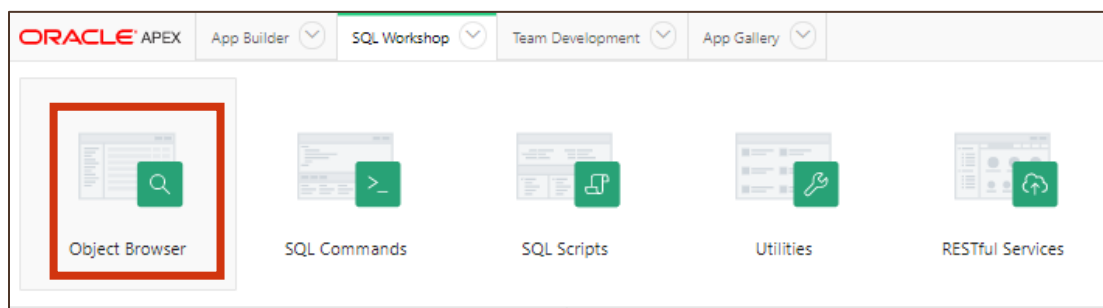
Download row(s) 1 - 15 of 1547 Next

1547	1532	15
Statements Processed	Successful	With Errors

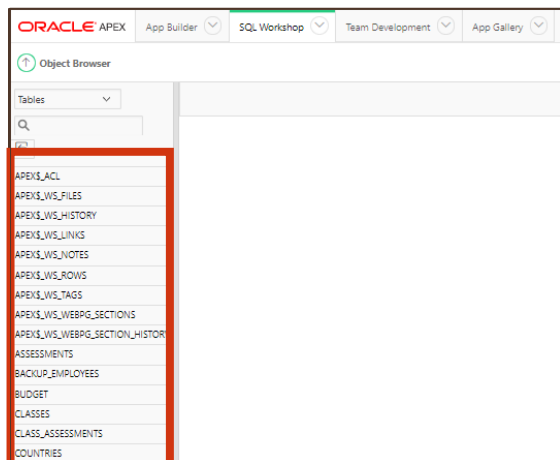
11. Click the “SQL Workshop” tab



12. Click “Object Browser”



13. You should now see the tables listed on the left of the Object Browser page. These are the tables (and data) that will be used in the curriculum for your course(s).

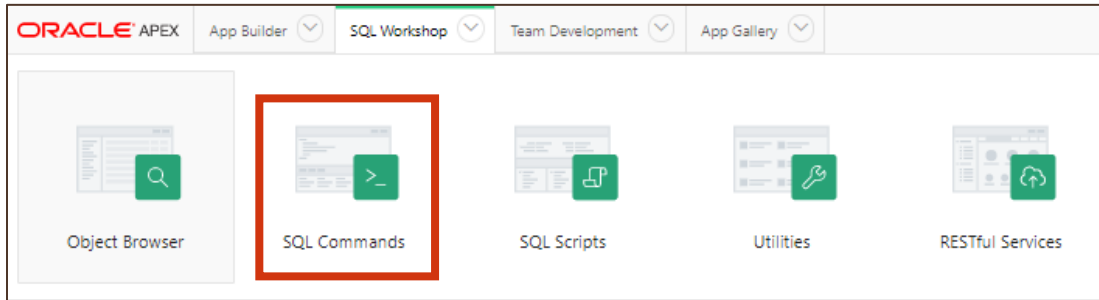


NOTE: The Script can be run again at a later date to revert the schema to its original state in the event of accidentally modifying or deleting data.

5. Using SQL Commands from the SQL Workshop Component

Click on the SQL Workshop icon. On the SQL Workshop home page you will see the five tools available from SQL Workshop:

- Object Browser
- SQL Commands
- SQL Scripts
- Utilities
- Restful Services

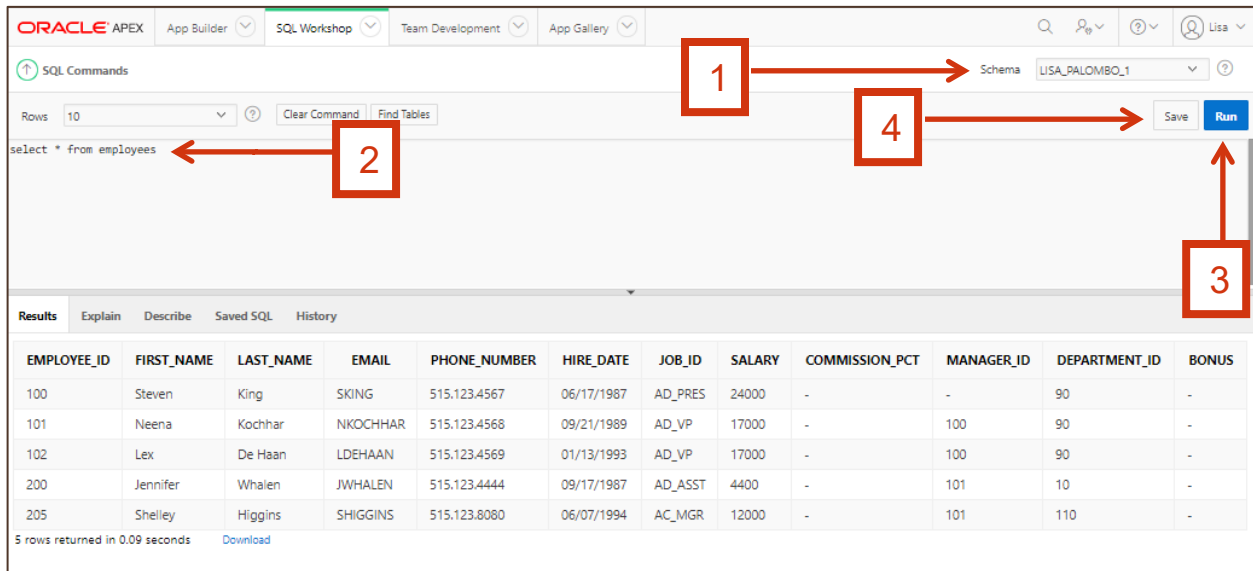


The SQL Commands icon will link to where you will enter and practice SQL and PL/SQL coding in the Database Programming with SQL or PL/SQL course. You can use the SQL Command tool to run SQL or PL/SQL statements on any Oracle database schema to which you have access privileges.

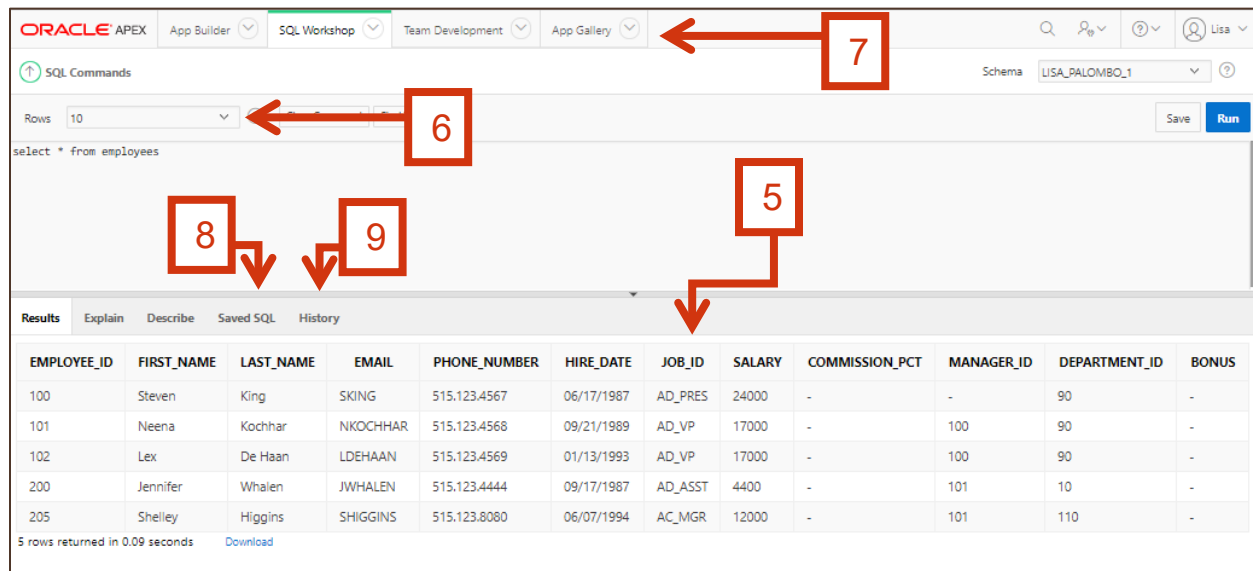
6. General Overview SQL Command Window

Refer to the graphics below for information about the SQL Command window:

1. Schema: The drop down menu only displays the schemas to which you have been granted access.
2. Statement window: Type SQL or PL/SQL commands in this window.
3. Run SQL button: Click this button to execute the SQL or PL/SQL statement.
4. Save button: You have the ability to run your SQL or PL/SQL statement or save it for future use. To limit the number of times you enter a common SQL or PL/SQL statement, save the statement by clicking the Save button.



5. After a SQL or PL/SQL statement is executed, the results are displayed in the Results window. An error message displays if there is a problem with the SQL or PL/SQL command.
6. Rows: The Rows drop down menu lets you select the number of rows you would wish to display.
7. Tabs: The tabs can quickly take you back to any of the 4 main components of the Oracle Application Express.
8. Saved SQL: Click on this button to display your list of saved SQL and PL/SQL commands.
9. History: Displays a list of the recently executed SQL and PL/SQL commands.



Additional features to note about the Results window (see Graphic below):

1. If you want to create a file of the output results:
 - a. Click on the "Download" link

- b. A Pop-up window will appear. Select from “open or save this file”
- c. If you select “open” then it will open the results in a Microsoft Excel spreadsheet. From Microsoft Excel you can then do a “save as” to save the file in this format.
- d. If you select “save” then it will save it as a .csv (comma separated value) file. A pop-up will allow you to select the saved filename and location.

2. Click on the “Clear Command” button to clear the Statement Window.

3. Click on the “Find Tables” button to see a list of table names.

The screenshot shows the Oracle APEX SQL Workshop interface. The 'SQL Commands' window is at the top, containing the query 'select * from employees'. Below the query window are two buttons: 'Clear Command' and 'Find Tables'. Red arrows point to these buttons, with the number '2' next to 'Clear Command' and the number '3' next to 'Find Tables'. Below the command window is the 'Results' tab, which displays a table of employee data. At the bottom left of the results table, there is a 'Download' link. A red arrow points to this link, with the number '1' next to it.

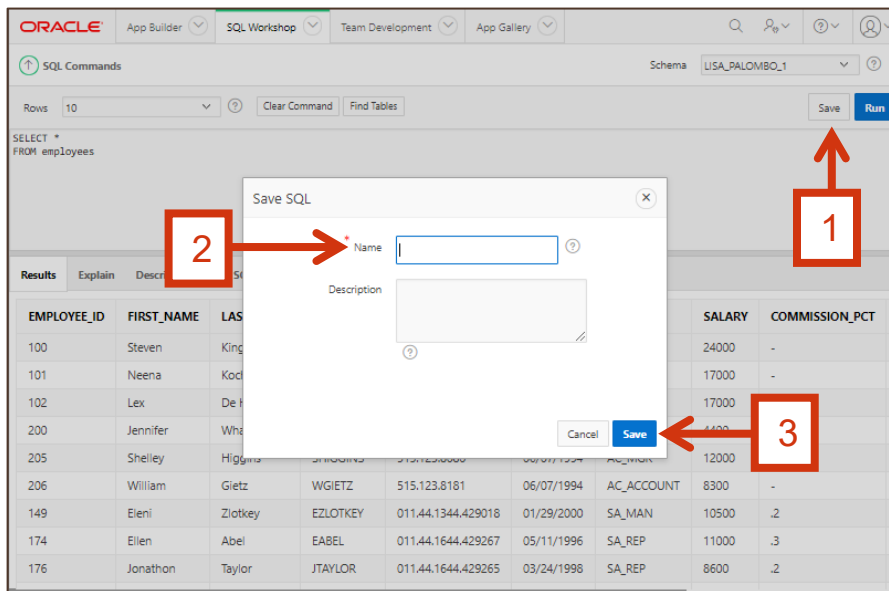
EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID	BONUS
100	Steven	King	SKING	515.123.4567	06/17/1987	AD_PRES	24000	-	-	90	-
101	Neena	Kochhar	NKOCHHAR	515.123.4568	09/21/1989	AD_VP	17000	-	100	90	-
102	Lex	De Haan	LDEHAAN	515.123.4569	01/13/1993	AD_VP	17000	-	100	90	-
200	Jennifer	Whalen	JWHALEN	515.123.4444	09/17/1987	AD_ASST	4400	-	101	10	-
205	Shelley	Higgins	SHIGG	515.123.8080	06/07/1994	AC_MGR	12000	-	101	110	-

5 rows returned in 0.09 seconds [Download](#)

7. Saving a SQL or PL/SQL Statement

To limit the number of times you enter a common SQL or PL/SQL statement, save the statement by clicking the Save button. To save the SQL commands:

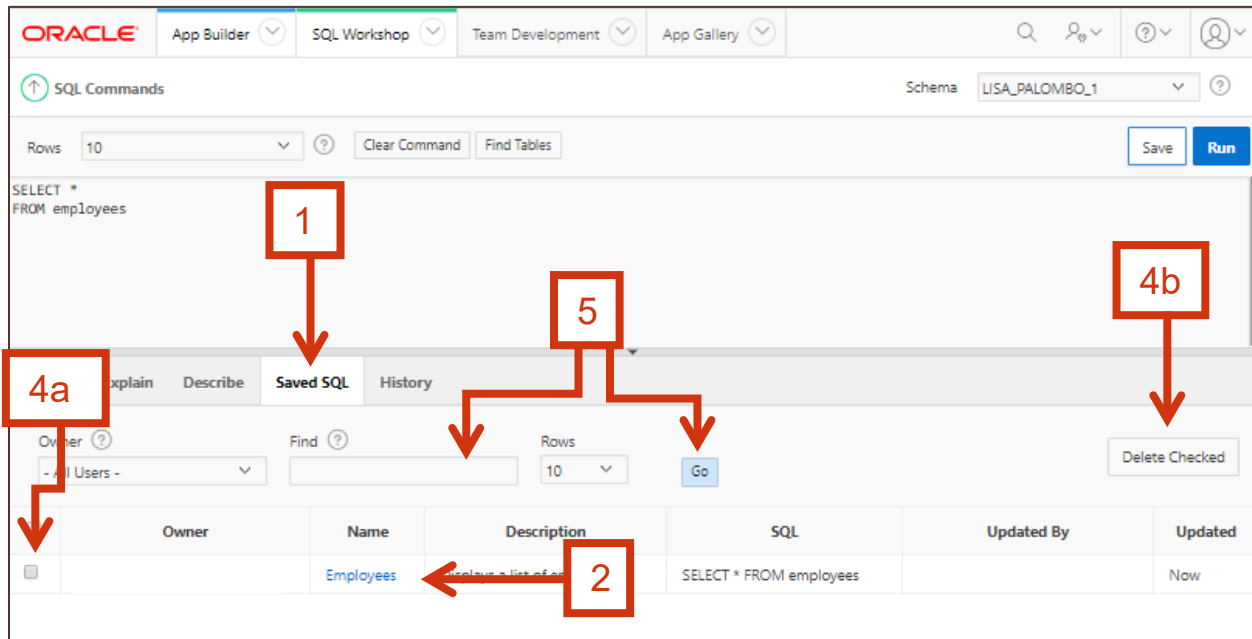
1. Click on the 'Save' button in the SQL command window.
2. A pop-up window will appear where you can enter the name (mandatory) and description (optional) of the file.
3. Click the Save button when done.



8. Accessing a Saved SQL or PL/SQL Statement

The saved SQL or PL/SQL commands can be accessed, executed, modified and deleted (See Graphic Below).

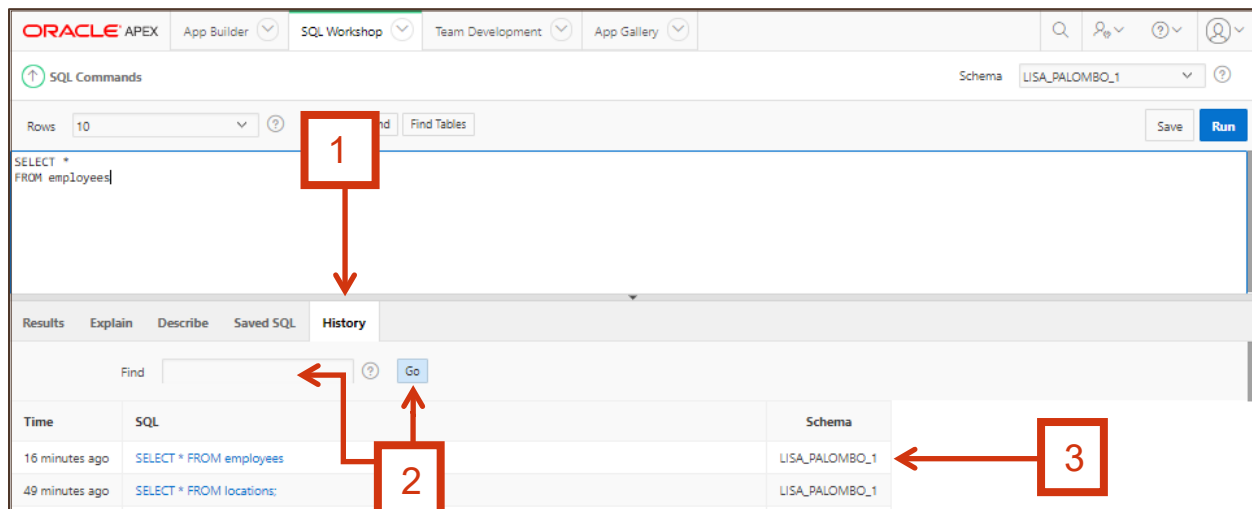
1. To display the list of saved SQL or PL/SQL commands: click on the "Saved SQL" tab.
2. To execute a saved SQL or PL/SQL command: click on the "Name" of the saved SQL or PL/SQL command. You will see it displayed in the statement window. You can now click on the "Run" button to execute these commands.
3. To edit a saved SQL or PL/SQL command: click on the "Name" of the saved SQL or PL/SQL command. You will see it displayed in the statement window. Edit the command, as needed then click on the "Save" button. The pop-up window will contain the original information. You can either keep it or edit the information or save to a new filename.
4. To delete a saved SQL or PL/SQL command:
 - a. Click on the box in front of the name of the saved command you wish to delete,
 - b. Click on the "Delete Checked" button.
5. To search for a SQL or PL/SQL command: enter a key word in the "Find" box, then click on the "Go" Button.



9. Using the History Option

A list of the latest run SQL or PL/SQL commands are kept in History. By default they are listed the most recently run commands. There are different options to note in the History window.

1. Click on the "History" option.
2. To search for a previously used command: Enter a key search word in the "Find" box then click on the "Go" button.
3. To re-execute the SQL or PL/SQL command: Click on the SQL or PL/SQL you wish to execute. You will see it displayed in the Statement Window. Click on the "Run" button to execute the SQL commands.



10. Using the Explain Option

Either type in a SQL or PL/SQL command in the “Statement” window or select a command from “History” or “Saved SQL”, then click on the “Explain” option to see a graphic explanation of SQL or PL/SQL command in the “Results” window.

The screenshot shows the Oracle APEX SQL Workshop interface. The top navigation bar includes 'ORACLE APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'App Gallery'. The 'SQL Commands' section is active, showing a schema of 'LISA_PALOMBO_1' and a SQL command: 'SELECT * FROM employees;'. Below the command, the 'Explain' tab is selected, displaying a table of index columns.

Owner	Table Name	Index Name	Used in Plan	Columns	Uniqueness	Status	Index Type	Join Index
LISA_PALOMBO_1	EMPLOYEES	EMP_ID_PK		EMPLOYEE_ID	UNIQUE	VALID	NORMAL	NO
		EMP_EMAIL_UK		EMAIL	UNIQUE	VALID	NORMAL	NO
		EMP_DEPARTMENT_IX		DEPARTMENT_ID	NONUNIQUE	VALID	NORMAL	NO
		EMP_JOB_IX		JOB_ID	NONUNIQUE	VALID	NORMAL	NO
		EMP_MANAGER_IX		MANAGER_ID	NONUNIQUE	VALID	NORMAL	NO
		EMP_NAME_IX		LAST_NAME, FIRST_NAME	NONUNIQUE	VALID	NORMAL	NO

11. Using the Object Browser tool from the SQL Workshop Component

The Object Browser can be used to create or browse objects (Objects and Data) in your schema.

The screenshot shows the Oracle APEX SQL Workshop interface. The top navigation bar includes 'ORACLE APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'App Gallery'. The 'SQL Workshop' section is active, showing a grid of tools: 'Object Browser', 'SQL Commands', 'SQL Scripts', 'Utilities', and 'RESTful Services'. The 'Object Browser' tool is highlighted with a red box.

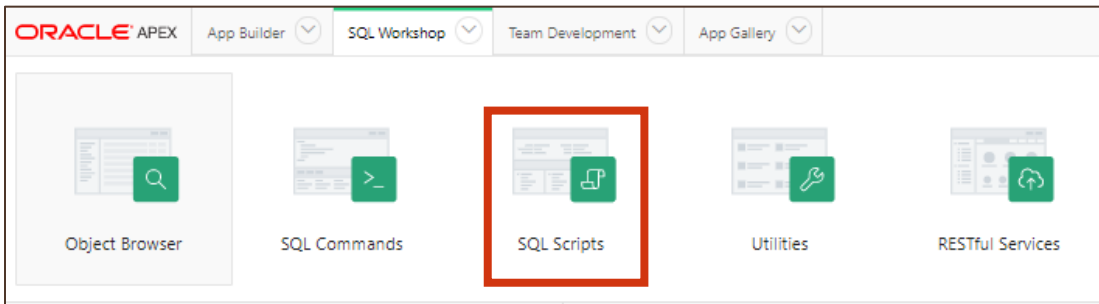
12. Using SQL Scripts tool from the SQL Workshop Component

The SQL Scripts tool can be used to view, create or upload SQL or PL/SQL scripts. A SQL or PL/SQL script is one or more SQL or PL/SQL statements that are executed sequentially. Each statement must have a semi-colon at the end of the statement.

To access the SQL Scripts page, click SQL workshop

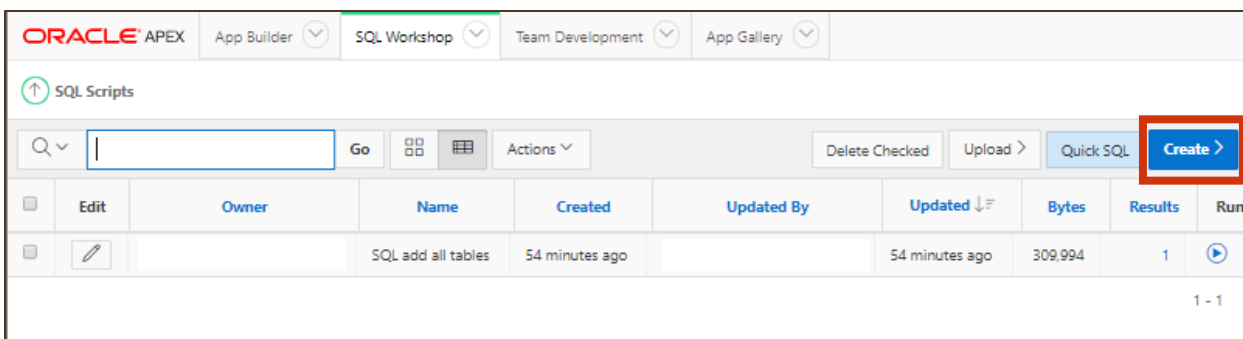
The screenshot shows the Oracle APEX SQL Workshop interface. The top navigation bar includes 'ORACLE APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'App Gallery'. The 'SQL Workshop' section is active, showing a grid of tools: 'App Builder', 'SQL Workshop', 'Team Development', and 'App Gallery'. The 'SQL Workshop' tool is highlighted with a red box.

Click SQL Scripts



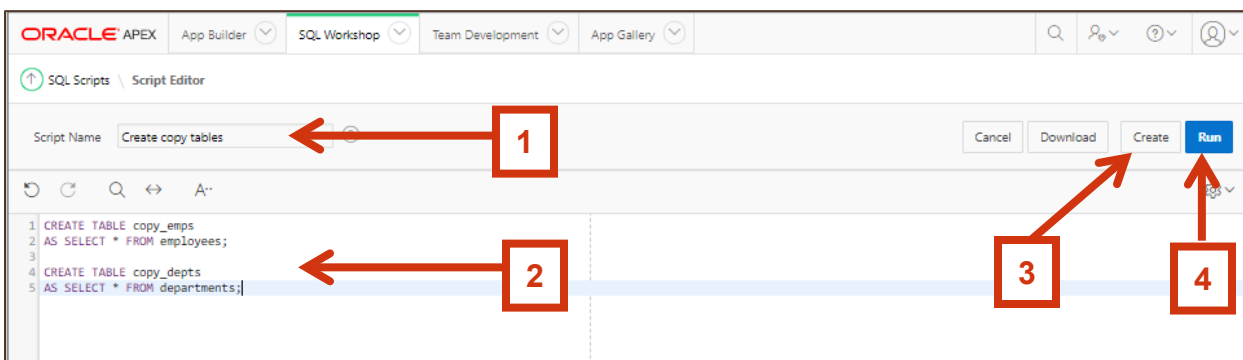
13. Creating Scripts

To access the script editor window you click the “Create” button from the SQL Scripts page.



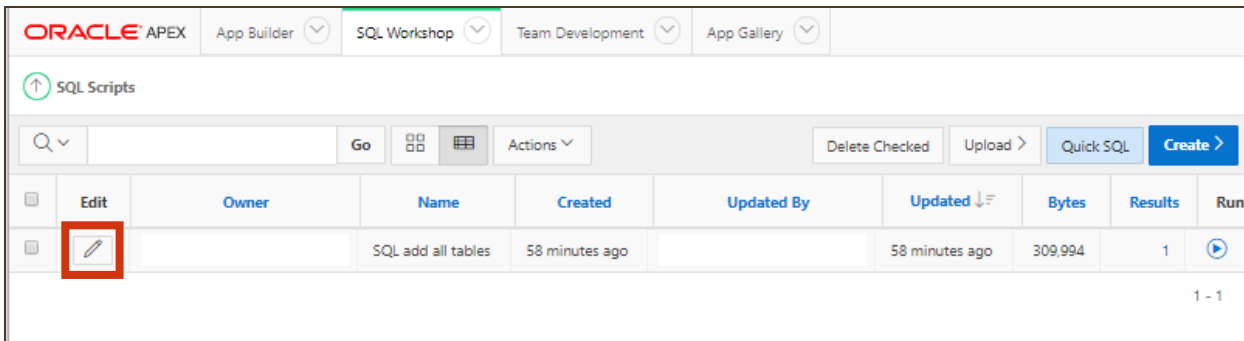
To create a new script:

1. Give your script a name
2. Enter in the SQL or PL/SQL commands
3. Click “Create” button to save your script
4. Or Click “Run” button to execute your script

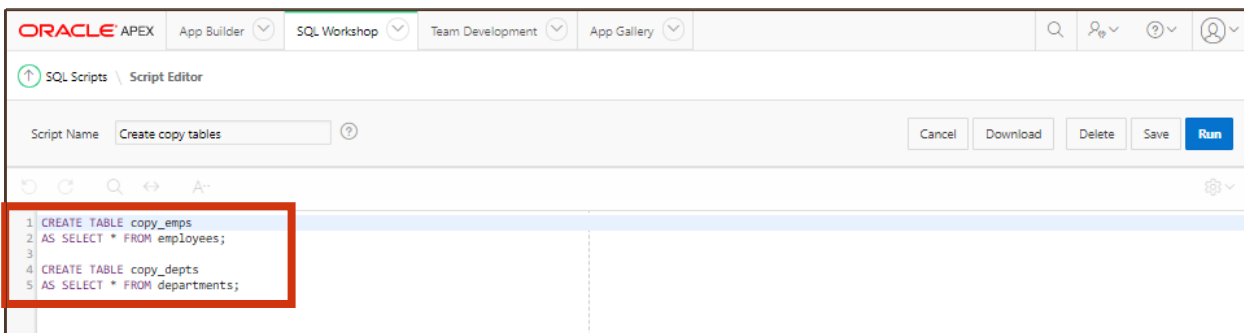


14. Viewing Scripts

To view scripts loaded into the SQL Script tool, select SQL Workshop SQL Scripts. (As shown in step 11) and click on the Edit icon (pencil).

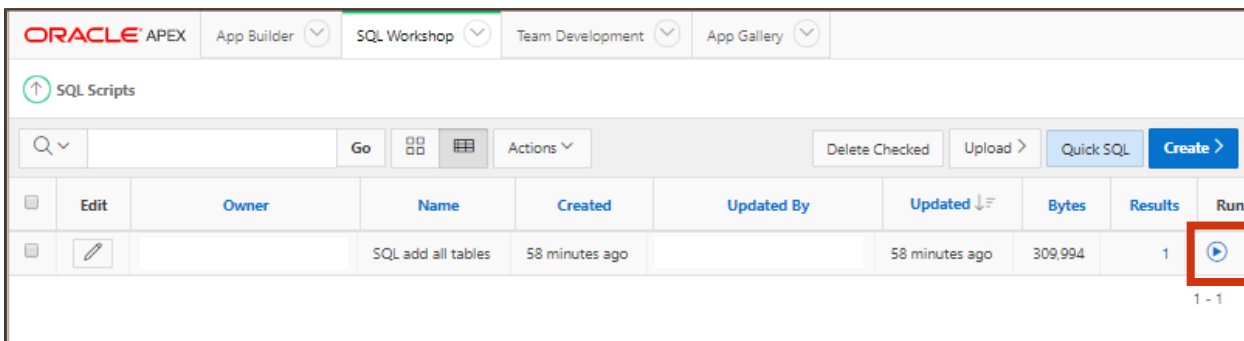


The contents of the script are displayed in the Script Editor window



15. Running Scripts

To run a script, click the "Run" icon next to the script you wish to execute.



Click the “Run Now” button.



The following is a sample of the type of detailed results information you might see.

Number	T%	Elapsed	Statement	Feedback	Rows
1		0.45	DROP TABLE t_job_assignments	Table dropped.	0
2		0.45	DROP TABLE t_shifts	Table dropped.	0
3		0.42	DROP TABLE t_order_lines	Table dropped.	0
4		0.43	DROP TABLE t_orders	Table dropped.	0
5		4.92	DROP TABLE t_staffs	Table dropped.	0
6		0.47	DROP TABLE t_food_items	Table dropped.	0
7		0.43	DROP TABLE t_regular_menus	Table dropped.	0
8		0.44	DROP TABLE t_promotional_menus	Table dropped.	0
9		0.48	DROP TABLE t_customers	Table dropped.	0
10		0.44	DROP TABLE d_track_listings	Table dropped.	0
11		0.46	DROP TABLE d_play_list_items	Table dropped.	0
12		0.46	DROP TABLE d_songs	Table dropped.	0
13		0.45	DROP TABLE d_types	Table dropped.	0
14		0.44	DROP TABLE d_job_assignments	Table dropped.	0
15		0.41	DROP TABLE d_partners	Table dropped.	0

Download

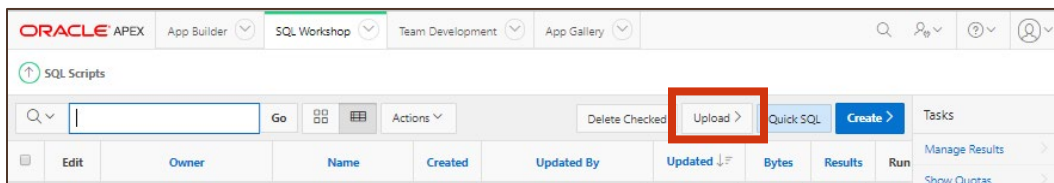
rows() 1 - 15 of 1547 Next

1547	1532	15
Statements Processed	Successful	With Errors

16. Upload Scripts

Before you upload a script into the Script Repository, you must first create it in a text editor on your desktop. When saving your script, make sure to save it as a .sql file. Sometimes programs will add an extension to your .sql and cause problems. For example, cre_dept.sql may sometimes be saved as cre_dept.sql.doc. If this is a problem, place double quotes around the title of the script when saving – “cre_dept.sql”.

You can access the upload window by selecting “Upload” from the SQL Scripts page.



Click Choose File and navigate to the file on your PC.

Upload Script

File

Choose File

SQL_Schema.sql

Script Name

File Character Set

Unicode UTF-8

Cancel

Upload

Add a Script Name, leave “File Character Set” as default (Unicode UTF-8), and click “Upload”.

Upload Script

File

Choose File

SQL_Schema.sql

Script Name

File Character Set

Unicode UTF-8

Cancel

Upload

You will see the uploaded Script listed on the “SQL Scripts” page in addition to any Scripts that you created in APEX using the Script Editor.

ORACLE APEX

App Builder

SQL Workshop

Team Development

App Gallery

SQL Scripts

Script(s) deleted.

Go

Actions

Delete Checked

Upload

Quick SQL

Create

	Edit	Owner	Name	Created	Updated By	Updated	Bytes	Results	Run
			SQL add all tables	1 seconds ago		1 seconds ago	309,994	0	

1 - 1